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ABSTRACT

Findings of a study that investigated the effect of administrative stressors on administrators' coping responses and the consequences of those responses are presented in this paper. Based on the managerial stress cycle model (Gmelch 1982), the study uses the transactional perspective, which views stress as an individual's physiological or psychological response to a perceived demand. A survey mailed to 1,000 administrators at the elementary, junior, and senior high school and district levels elicited 740 responses, a 74 percent response rate. Findings suggest that: (1) administrators reported a moderate stress level; (2) a significant negative correlation existed between administrator's perceived stress and their perceived coping effectiveness; (3) a significant negative correlation existed between perceived stress factors and burnout; and (4) androgenous individuals (those who possess the flexibility of both gender traits) expressed more effective coping behaviors. The data support the transactional view of the stress cycle. A recommendation is made to provide administrator training that incorporates diverse situations and behavioral adaptability to enhance coping ability. Two figures and five tables are included. (Contains 30 references.) (LMI)

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Administrator Stress and Coping Effectiveness: A Transactional Study

Popular writers and academic researchers have added volumes of literature in the past decades to the study of occupational stress. Most data-based studies have investigated the sources of stress while fewer have addressed how educators cope with their job pressures. However, the general literature on coping is significant in volume and diverse in attention (Burke & Weir, 1980) and addresses popular and academic concerns as well as conceptualized, theoretical, and empirical investigations.

Researchers from the disciplines of medicine, psychiatry, clinical psychology, and behavioral sciences have undertaken studies to understand the phenomenon of stress and coping. The research on stress in schools has examined several levels or stages of stress from the nature of stress (Chichon and Koff, 1980), types and sources of stress (Feitler & Tokar, 1981; Gmelch & Swent, 1982), responses to stress (Gmelch, 1988; Swent, 1983), to the consequences of stress (Bloch, 1978). Nevertheless, many of these and other studies have failed to investigate the processes of stress and coping together, integrated by a conceptual framework. The present study proposes to study the stress and coping process from a transactional perspective. As Hiebert and Mendaglio (1988) suggest: "A virtual consensus now exists regarding the transactional nature of stress . . . However, this consensus has been slow to surface in the literature on stress in the school system (p. 1)."

Theoretical Framework

A number of models have emerged since the 1970's which recognize the need for transactional explanation of the components of stress. Many of these components identified are similar and provide the cornerstones for the present

study. McGrath (1976) first explained stress as a four stage, closed-loop process beginning with situations in the environment (A), which are then perceived by the individual (B), to which the individual selects the response (C), resulting in consequences for both the individual and the situation, which closes the loop. Each of the four stages is connected by the linking process of cognitive appraisal, decision, performance, and outcome, as depicted in Figure 1.

Most other models or conceptual frameworks represent hybrids, elaborations, or extensions of the McGrath model. Cox (1978), for example,m enumerates five recognizable stages. The first four (sources of demand, perceived demand and capability, response to stress, and consequences of responses (closely proximate McGrath's stages; and the last stage, feedback, resembles the closed-loop character of McGrath's model. Schuler (1984) proposes an integrative-transactional process model of stress which is more elaborate than McGrath's model, but still focuses on the four primary components of environmental stressors, individual perception, stress, and individual responses. Finally, the education-based Teacher Stress Model developed by Kyriacou and Sutcliffe (1978) combines both the transactional and physiological considerations and results in a complimentary model which identifies stress response as "the perception that there is an imbalance or discrepancy between the demands made upon the individual and the individual's ability to meet or cope with these demands, where failure has important consequences for the individual" (p. 2).

In summary, the four stages postulated by McGrath have served as sound building blocks for the development of stress models. Each subsequent model appears to have been personalized with appropriate feedback loops, moderator variables, and process variables embellishing the relationship between the four basic stages in a manner to meet the research and application needs of each

investigator. In a like manner, the Managerial Stress Cycle proposed by Gmelch (1989) has been built on McGrath's foundation and will serve the purposes and goals of the present study.

The Managerial Stress Cycle, presented in Figure 2 provides a broader perspective and clearer understanding of the stress process from a managerial perspective. More importantly it adheres to the basic premises of research by being able to predict, comprehend and apply the key concepts of stress as well as fulfill the basic goals of a theoretical model (Ivancevich & Matteson, 1980, see p. 31). The Cycle includes four primary components, or stages, and secondary filters which effect the relationship between each stage. The stages are set in sequential order and reflect direct causal effect such that the variables in the first stage are hypothesized to be a direct cause of the variables in the second stage, and so forth. For example, the objective stressors in the organizational environment impact the perception of stress in the second stage. The filters on the other hand represent moderating or conditioning variables which intervene between the stages and moderate the effect. The degree to which an individual perceives stress from the external environment is influenced by a person's disposition and background characteristics.

The current study sought to investigate the relationship between stage 1, stressors or demands, and stage 3, stress response or coping -- and between stage 3 and stage 4, the consequences of burnout. From a transactional perspective stress is a person's physiological or psychological response to a perceived demand that approaches or exceeds the person's resources or ability (Gmelch, 1982; Hiebert, 1987). With respect to the stages of the stress cycle, stress is defined as "the anticipation of one's inability to respond *(stage 3)* to a perceived demand *(stage 1)*, accompanied by one's anticipation of negative consequences for an inadequate response *(stage 4)*" (Gmelch, 1982, p. 84).

McGrath theorized six categories describing the multidimensionality of occupational stress: (1) task-based stress, (2) role-based stress, (3) stress intrinsic to the behavior setting, (4) stress arising from the physical setting, (5) stress arising from the social environment, and (6) stress within the person system (1976, see p. 1369). From an empirical basis Gmelch and Swent (1984) studied 1200 principals and superintendents and discovered four factors of administrative stress: (1) task-based, (2) role-based, (3) conflict-mediating, and (4) boundary-spanning (Koch, Tung, Gmelch & Swent, 1984). The first three approximate what may have theorized as general dimensions of stress (Kahn, Wolfe, Quinn, & Snoek, 1964; McGrath, 1976), but the last, boundary-spanning stress, appears to be unique to the field of school administration.

These stress factors represent the objective environment and according to Lazarus and Delongis (1983) individuals appraise situations based on the degree to which they believe they will be harmed, threatened, or challenged. If the stressors or demands are perceived as harmful, threatening or challenging, an individual will respond to them physiologically or psychologically. Only recently have a few researchers studied school administrators physiological reactions to stress (Phillipps & Thomas, 1983; Cooper, Sieverding & Muth, 1988; Whan, 1988). Most of the psychological research on educational administration stress has attempted to identify the type and intensity of stressors administrators experience (Brimm, 1983; Swent and Gmelch, 1977), without concern for the individual's ability to cope with the demands. Hiebert and Mendaglio (1988) recently studied the relationship between the demands school principals face and their perceived effectiveness in dealing with those demands. The present study proposes to replicate and expand Hiebert and Mendaglio's research by (1) assessing the association between administrative stress factors (stage 1) and coping effectiveness (stage 3); (2) exploring the association between coping effectiveness

factors (stage 3) and dimensions of burnout (stage 4); (3) investigating the influence of sex-role classification as a mediating or intervening variable in the degree of stress and coping experienced, and (4) assessing the differences between stress factors and coping levels by administration position -- elementary, junior high and high school principal and superintendent.

Methodology

The sample of this study was selected from the population of 1991 Washington State principals and superintendents. The population was stratified on the basis of the four school divisions of educational administration: elementary principal, junior high/middle school principal, high school principal and superintendent. A random sample or 250 administrators from each of these four divisions were selected as subjects of the study.

Each subject received an Administrator Work Inventory (AWI) which consisted of three sections. The first section contained the 35 item *Administrator Stress Index* previously developed and validated by Gmelch and Swent (1984) and factor analyzed by Koch, Tung, Gmelch and Swent (1984). In addition to requesting administrators to assess the level of stress experienced, they were also asked to indicate their perceived coping effectiveness, using a similar five-point Likert-type scale. This method for quantifying emotional reaction has been used successfully both clinically (Cotler & Guerra, 1976; Hiebert & Fox, 1981) and in survey instruments (Gmelch & Swent, 1984; Gmelch, Lovrich & Wilke, 1984; Hiebert & Mendaglio, 1988).

Section two of the survey instrument consisted of the Maslach Burnout Inventory (MBI) which has been tested, validated, and normed for educators. The MBI contains 22 questions assessing three dimensions of burnout: emotional exhaustion, depersonalization, and personal accomplishment.

The third section addressed the intervening variables such as demographic data pertaining to age, gender, years of experience, level of administration, marital status, as well as an assessment of the respondents' sex-role classification (Bem Sex-Role Inventory), The BSRI is a 30 item instrument used to classify an individual's independent dimensions of masculinity, femininity, androgyny, and undifferentiated (Bem, 1981).

On October 24, 1991 a cover letter and Administrator Work Inventory was sent to 1000 principals and superintendents. One week later a follow-up postcard was sent reminding participants to respond or thanking them if they had already returned the AWI. The first week of November another cover letter and AWI was sent to all non-respondents which was followed up by telephone calls one week later. Seven hundred and forty administrators responded for a 74% return rate. Approximately 85 of the returned surveys were partially completed, therefore 655 surveys were used for data analysis.

Responses by administrative position were consistent across all levels (161 superintendents, 177 high school principals, 149 middle school,junior high principals, and 169 elementary principals. The average subject was 47 years of age and had 14 years of administrative experience. Twenty-three percent of the respondents were female and 77% male. The administrators averaged 3 hours of exercise per week and attributed 65% of their total stress in their lives to their work.

Results and Discussion

Overall, the level of stress among the educational administrators in this study was moderate, ranging from 2.13 to 2.88 on a five point scale of 1 (low stress) to 5 (high stress). However, some administrators did experience high levels of stress. Overall, 26.6% of the sample reported "serious" stress (a score

of 4 or 5 on the stress scale) from task-based duties, 18.6% from role-based duties, 19% from conflict mediation and 21.7% from boundary-spanning stress.

Analysis of variance was used to compare the four factors of stress with the four levels of administrative positions. If the F-test indicated a significant difference among treatment means, then Fishers least significant difference (LSD) were used to determine where the differences existed. From Table 1 it is evident that superintendents were significantly less bothered from task-based and conflict mediating stress than all principals, but significantly more stressed from boundary-spanning duties (Torelli & Gmelch, 1992). These results are consistent with an earlier study using the ASI which reported similar significant differences between principals and superintendents with the exception of role-based stress which was not significant in this study (Koch, et al., 1984).

Stress and Coping

While the average stress level for administrators on task-based, role-based, conflict-mediating and boundary spanning stress was 2.45, 2.37, 2.48, and 2.51, respectively, the average perceived level of coping effectiveness on each of the factors was significantly higher in a statistical and practical sense (task-based coping $x = 3.28$; role-based coping $x = 3.85$; conflict-mediating coping $x = 4.04$; and boundary-spanning coping $x = 3.79$). In order to test for the reciprocal relationship between stress and perceived coping, a Pearson Product-Moment Correlation was calculated to analyze the association between levels of stress with the levels of coping effectiveness. As Table 2 indicates, a significantly strong negative correlation resulted (inverse relationship) between each related stress and coping factor. In other words, administrators who experienced more intense stress from task-based stress perceived themselves to be less effective in task-based coping ($r = -.57$). All correlation coefficients ranged from $r = -.62$ to

-.40 and were significant at the .0001 level. Therefore, one reason administrators in this study experienced moderate levels of stress may be due to their high perceived coping effectiveness.

To check for differences by level of administration, Pearson Product-Moment Correlation Coefficients were calculated for each level of the principalship and the superintendency. As Table 3 indicates, similar significantly strong negative correlations resulted. This confirms, and analyzes in more detail (levels of administration), the results found by previous researchers regarding the reciprocity between perceived coping effectiveness and stress (Hiebert & Basserman, 1986; Hiebert & Mendaglio, 1988).

Coping Effectiveness, Stress and Sex-Role Classifications

This study also sought to explore the association of sex-role classifications as a mediating variable between administrator stress and coping effectiveness. Sandra Bem (1981) asserts that masculinity and femininity are not opposite domains of traits, but complementary. If a person possesses the flexibility of both traits they are what Bem terms an androgynous individual. In essence, an androgynous person has greater behavior adaptability across situations, and may possess greater coping ability. Since the key to coping is "not a single act but a constellation of many acts" (Lazarus, 1981, p. 202) by having a repertoire of both masculine and feminine traits, the androgynous individual may be more effective in coping with stress.

Table 4 reflects strong inverse relationships between stress factors and coping factors for all sex-role classifications (ranging from $r = -.75$ to $-.42$), with the exception of feminine administrators in the boundary spanning area. With such significant correlations in each of the sex-role classifications the evidence is inconclusive as to whether sex-roles are effective filters between stress and coping.

Coping Effectiveness and Consequences of Burnout

To what extent does coping effectiveness impact the level of burnout experienced by school administrators? To answer this question the association of coping factors and dimensions of burnout were calculated using the Person Product-Moment Correlation Coefficients. While task, role, conflict and boundary-spanning coping factors are not theoretically connected to the emotional exhaustion, depersonalization and personal accomplishment dimensions of burnout, it is interesting note that when correlation coefficients were calculated, significant negative correlations were found between all coping factors and emotional exhaustion and depersonalization burnout dimensions, and positive correlations with personal accomplishment (the greater the coping ability the greater the feeling of personal accomplishment). Overall, as Table 5 displays, the most significant inverse relationship was between emotional exhaustion and task and role-based coping ($r = -.44$ and $-.35$, respectively). Therefore, administrators who experience more emotional exhaustion and depersonalization burnout cope less effectively in task, role, conflict and boundary-spanning areas. Conversely, coping effectiveness in conflict, role and boundary-spanning is positively related to personal accomplishments.

Conclusions

Several conclusions can be drawn from the results of this study. First, as has been found in recent studies, the level of stress in school administration appears to be moderate, not oppressive as suggested in earlier popularized literature. Also the high level of perceived coping effectiveness confirms the results of initial studies using the same methodology.

Second, a significant negative correlation was found between administrators' perceived stress and their perceived coping effectiveness. This suggests that administrators who perceive themselves as coping effectively (stage

3) with the demands (stage 1) are not very stressed. Conversely, those administrators who perceive a great deal of stress do not perceive themselves as coping effectively. This confirms the results found by Hiebert and Mendaglio (1988), but still leaves the direction of the relationship, or cause and effect question, still open for further investigation.

Third, while differences in stress levels among administrative positions existed (e.g. superintendents experienced greater boundary-spanning stress and less role and task-based stress than principals at all levels), a consistently significant negative correlation existed between stress and coping appeared in all levels of administration, from elementary principals to superintendents.

Fourth, significant negative correlations were also found between perceived administrator stress factors and the three dimensions of burnout. While interpretation of the association between each specific task, role, conflict and boundary spanning stress factor with the burnout dimensions still remains to be done, the most significant negative association (-.44) between task stress and emotional exhaustion appears self-evident.

Finally, the above conclusions lend support to the transactional view of stress and the conceptualization of the stress cycle. Significant associations were found between stages 1 and 3 and stages 3 and 4 of the stress cycle. Also, the significantly strong correlations between the androgynous and undifferentiated sex-role classification and stress adds to the contribution of intervening variables in the mediation of stress, although the association was significant for between all sex roles and stress factors. Several implications can be drawn from this study. Of practical significance is the fact that school administrators possess a greater array of implied coping skills than previously hypothesized as well as lower levels of burnout and stress. The results also imply that training school administrators to improve their coping skills is a viable means of reducing

administrative stress and burnout. Furthermore, training in diverse situations and for greater behavioral adaptability (e.g. to become more androgynous) has promise of enhancing administrators' coping ability.

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Figure 1
McGrath's Paradigm for Analysis of Stress Cycle

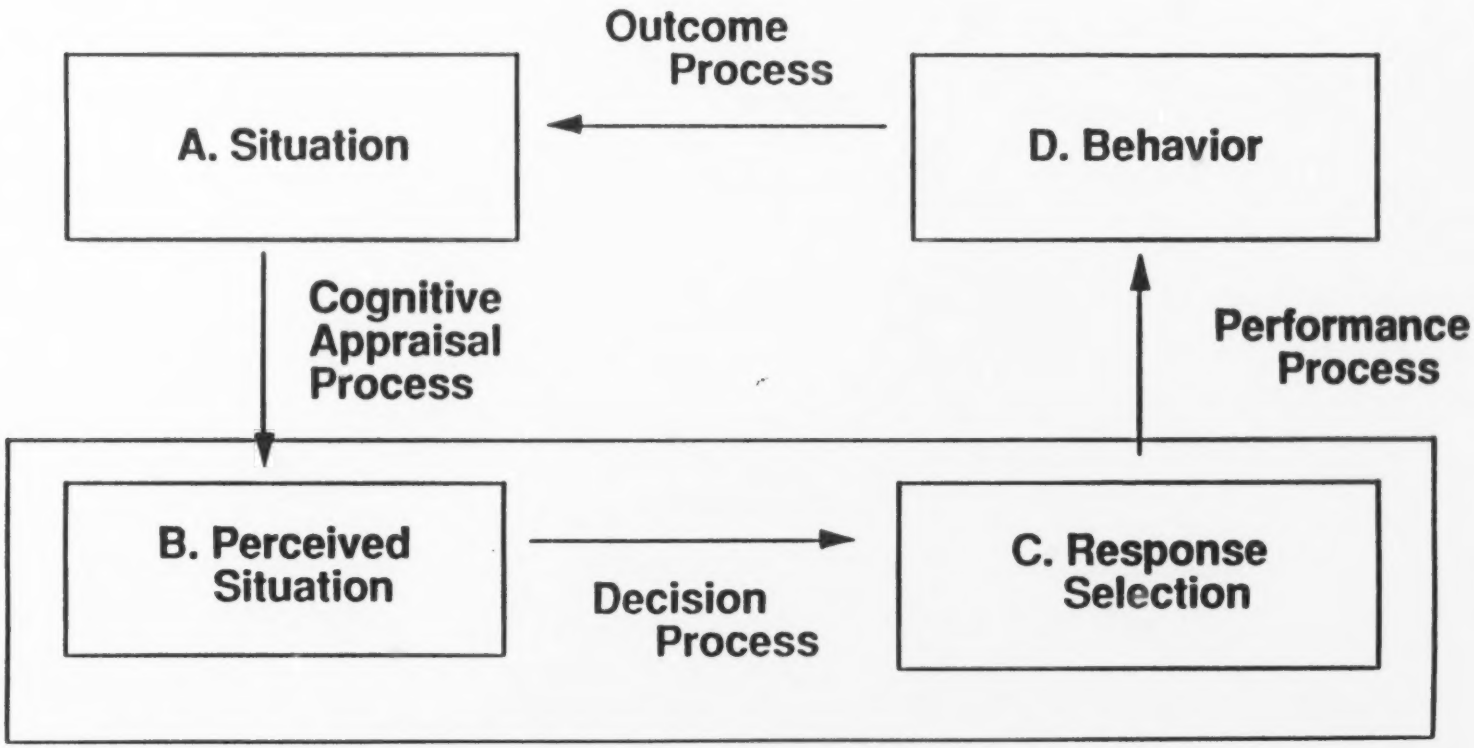

Figure 2

Managerial Stress Cycle

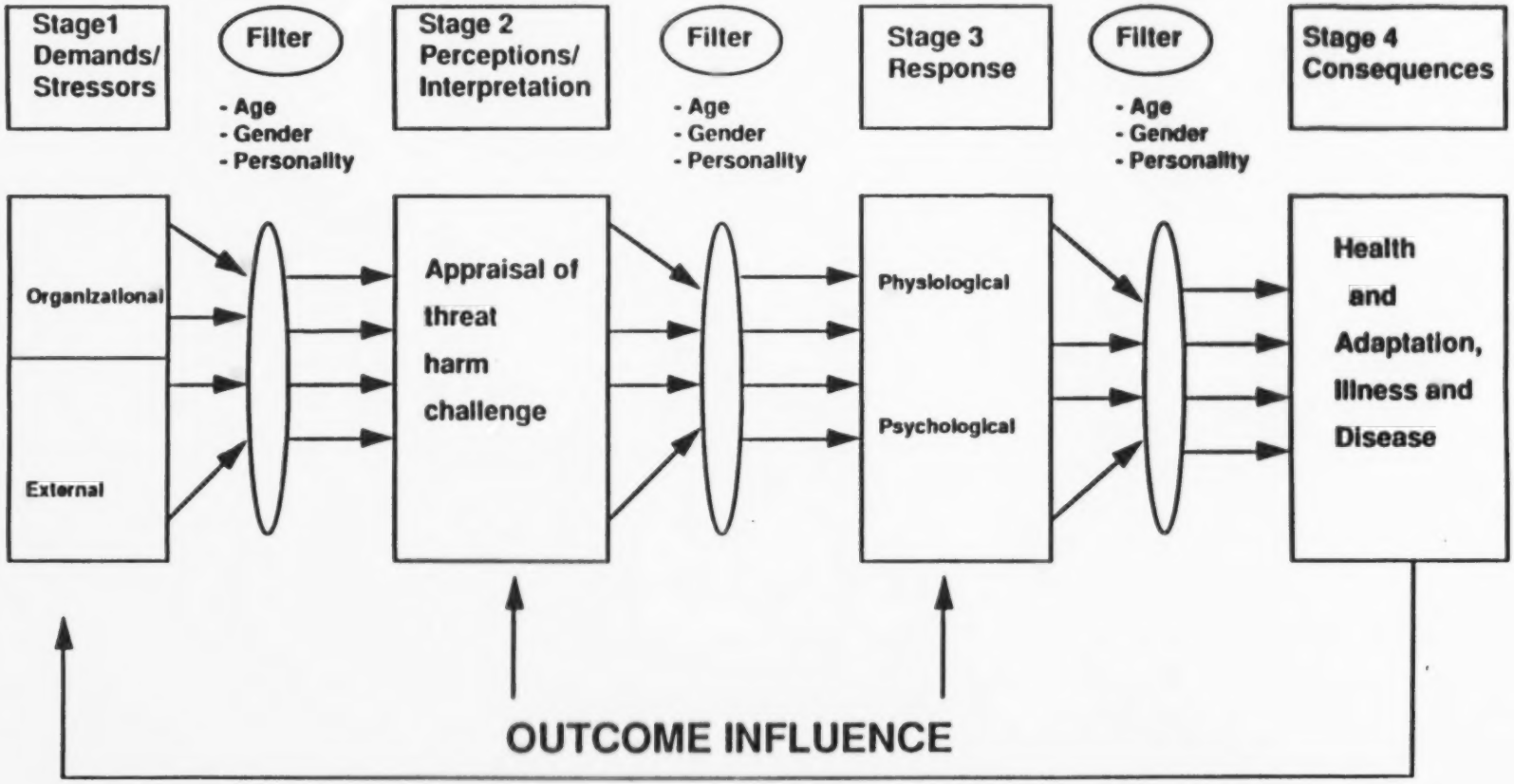

Table 1

Stress Factors Mean Scores and Least Significant Difference Tests
Between Stress Factors and Level of Administration

Level of Administration

Stress	All Administrators (n=660)	Superintendents (n=161)	HS Principals (n=177)	MS Principals (n=149)	Elem. Principals (n=169)
Task-based	2.94	2.24	2.47[a]	2.49[a]	7.60[a]
Role-based	2.37	2.32[b]	2.42	2.41	2.35
Conflict Mediating	2.48	2.13[b]	2.55[a]	2.56[a]	2.67[a]
Boundary Spanning	2.51	2.88[b]	2.35[a]	2.42[a]	2.41[a]

Note: Cells which do not share the same superscript are significantly different from one another at the .05 level(LSD).

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Table 2

Mean Scores and Standard Deviation of Stress and Coping Factors

	Stress Factors (n=643)		Coping factors (n=650)	
Factors	Mean	SD	Mean	SD
Task-based	2.45	.63	3.28	.68
Role-based	2.37	.74	3.85	.65
Conflict Mediating	2.48	.88	4.04	.78
Boundary Spanning	2.51	.79	3.79	.60

Table 3

Pearson Product-Moment Correlation Coefficients: Stress and Coping Factors and Levels of Administration

Stress and Coping Factors	All Administrators (n=660)	Superintendents (n=161)	HS Principals (n=177)	MS Principals (n=149)	Elem. Principals (n=169)
	Level of Administration				
Task-based	-.57*	-.48*	-.57*	-.58*	-.65*
Role-based	-.62*	-.45*	-.63*	-.69*	-.43*
Conflict Mediating	-.40*	-.44*	-.59*	-.26*	-.54*
Boundary Spanning	-.58*	-.49*	-.65*	-.59*	-.63*

* $p < .0001$

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Table 4

Pearson Product-Moment Correlation Coefficients: Stress and Coping Factors and Sex-Role Classifications

Sex-Role Classifications

Stress and Coping Factors	Androgenous (n=320)	Masculine (n=203)	Feminine (n=47)	Undifferentiated (n=69)
Task-based	-.63*	-.49*	-.56*	-.71*
Role-based	-.58*	-.61*	-.55*	-.75*
Conflict Mediating	-.54*	-.42*	-.73*	-.56*
Boundary Spanning	-.62*	-.43*	-.20	-.65*

* $p < .0001$

Table 5

Pearson Product-Moment Correlation Coefficients: Coping Factors and Dimensions of Burnout

Coping Factors	Dimensions of Burnout: Emotional Exhaustion	Depersonalization	Personal Accomplishments
Task-based	-.44*	-.23*	.17*
Role-based	-.35*	-.31*	.21*
Conflict Mediating	-.19*	-.19*	.18*
Boundary Spanning	-.27*	-.24*	.23*

* $p < .0001$

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